Should Housing Be Built on Former Brownfield Sites?

Brownfields are abandoned or underutilized industrial and commercial sites that are, or are perceived to be, chemically, physically, or biologically contaminated.[1] In the early 1990s, a coalition of big-city mayors and legislators from urban industrial states pressured the US Congress and the US Environmental Protection Agency to start a pilot program that would turn these eyesores into new factories, businesses, and other job- and tax-creating activities. Housing was not an initial focus.

ARGUMENTS FOR BUILDING

By 1997, public opposition to building housing and schools and creating open spaces on brownfields yielded for 3 practical reasons. First, brownfields were considered to be a ready supply of available land upon which to build, and housing was in large demand. Many of the hundreds of thousands of brownfield sites were not commercially viable because they were too small, oddly shaped, poorly linked to infrastructure, or located in residential neighborhoods. In addition, site reviews found that many were not contaminated, or were only slightly contaminated, so that cleaning up the sites for housing would not be prohibitively expensive.

Second, in some cities, brownfields are the only readily available supply of land for new housing and schools. A random sample of 793 New Jersey residents found that 36% were planning to move during the next 5 years (a figure that is fairly typical of the northeastern United States). Of these, almost 40%—that is, 14% of the total number of respondents—said that they were willing to live on cleaned-up brownfield sites. This "willing" population was disproportionately younger than 40 years, had lower middle income, and was African American and Latino. In addition, they wanted to buy a house or condominium, stay in their neighborhood with their family and friends, and not move to the suburbs. These respondents were not afraid of living on cleaned-up brownfield sites, and they trusted city officials and scientists to inform them if the sites were safe. Cleaned-up brownfield sites offered them an opportunity to buy into the American homeownership dream. (Not every potential customer of a brownfield site is a first-time home owner: houses selling for more than $1 million and apartments renting for more than $3,000 per month have been built on former brownfields in New Jersey with direct views of the Manhattan skyline.)

The third reason to build housing on brownfields is to improve neighborhood quality and the environment. Crime and physical decay kill neighborhoods as well as mentally and physically wound their residents.[2] Invariably, in neighborhoods that are distressed by crime and blight, people have little feeling of control over their outdoor and personal environments and as a result often disengage from civic activities.[3,4] Cleaning up a brownfield site may do more than rid a neighborhood of a degrading eyesore—it may also signal the beginning of a physical and spiritual renewal of a neighborhood and its people by creating affordable housing, a school, a playground, or a community facility.

ARGUMENTS AGAINST BUILDING

Incompetence and greed are the biggest threats to useful brownfield development in neighborhoods. In some projects, city officials are granted permits without going through the essential research on previous site uses. In other cases, where the proper up-front research is conducted, developers may find higher levels of contamination than they originally anticipated. Under these circumstances, developers often ask their funders for more money. In turn, both developers and funders may ask their insurance companies for compensation or try to get money and benefits from state and local governments. In the meantime, the projects may be stopped, resulting in even larger eyesores than before the cleanups began. Even worse is the possibility that developers would try to hide high levels of site contamination.

Grave concerns surround the reliability of brownfield cleanup and subsequent protective measures. Typically, builders remove the upper level of soil and replace it with clean soil, then place an impervious cap over it to prevent any contamination left in the ground from reaching the surface. The use of the property

is often restricted—for example, no fence posts may be driven through the concrete cap, and no food crops may be grown in the ground. In some cases, engineered systems may be built that pump contaminated materials from the soil. Problems abound, including improperly built protections, infrequent monitoring, and difficult enforcement of deed restrictions. The failures of physical and institutional barriers pose potential public health nightmares and are potential sources of toxic-tort cases. Deed restrictions are sometimes violated within six months.

BUILD, BUT . . .

It is not possible to ensure that every cleaned-up brownfield site that becomes a house, a school, or a playground will be a safe and healthy environment. Should public health advocates support the building of housing on cleaned-up brownfield sites? Applying the precautionary principle against building any housing on brownfields will condemn many urban neighborhoods to remain in their present stressful environmental and social conditions. While there are no easy answers, I have 3 suggestions for moving forward. First, neighborhood leaders and residents need to be involved in the planning process[5]—not a perfunctory public meeting after the decisions have already been made, but earlier meetings that actually consider site alternatives and the development and postconstruction phases. An involved public can function as site steward, officially and unofficially monitoring the site and surroundings.

Second, developers, elected officials, and financiers would be more likely to support expenditures on brownfield cleanup if they could recover some of their costs from state governments. In New Jersey, for example, there is a program that will provide up to a 75% return on brownfield investment. Furthermore, unscrupulous developers are less likely to engage in brownfield redevelopment if they must post performance bonds.

Third, local public health officials need to be engaged in the process of brownfield reclamation, behind the scenes as well as publicly. By working closely with engineers, planners, and developers, they may better ensure that (1) preexcavation testing is done properly, (2) excavation and soil replacement meet regulatory requirements when appropriate and go beyond existing requirements when plausible exposure scenarios exist, and (3) institutional barriers actually protect the public rather than provide false reassurance. Public health practitioners need to become educated about brownfield hazards and benefits and make themselves available to community residents, developers, and property owners to answer their questions about health and safety concerns.

There is no question that public health practitioners will be challenged by brownfield housing projects. At the time of this writing, housing is scheduled to be built on land that is more than minimally contaminated in Bayonne, NJ; Alameda, Calif; Pittsburgh, Pa; and other locales.[6,7] In Pittsburgh, for example, city and private developers are planning to redevelop 4 former steel mill sites into mixed use sites, including residential. One of these sites contains slag from steel mill processing; the slag is contaminated with heavy metals, and its stability is not perfectly understood. Pittsburgh officials, while aware of the environmental hazards and taking steps to deal with them, have approved these plans owing to the shortage of available land for market-priced housing.

Local health practitioners involved in decisions regarding the cleanup of brownfield sites will undoubtedly face hostile members of the public. Some residents are more concerned about local jobs and aesthetics than about unseen contaminants left in the ground (Tarr J., PhD, unpublished data, 2000). They may argue that concerns about residual contaminants are trivial and prevent community redevelopment. Conversely, opponents of brownfield redevelopment may invoke the fear of public exposure to toxins in order to oppose projects they dislike for social, aesthetic, and other reasons that have little to do with protecting the public's health. In these instances, public health practitioners may be portrayed as not caring enough about the residents of impoverished urban communities and leaving them vulnerable to poisoning by toxins.

My biggest nightmare about what could go wrong is not a challenge to public health officials; it is a small community without a local health official, where the county or state government does not step into the role of local protector of the public. In such a case, it is possible that insufficient attention would be paid to public health. I can only hope that local citizen groups and not-for-profit organizations would intercede and that businesses and their lawyers would understand that their self-interest is not well served by deliberate neglect.

In Chicago, Ill; Detroit, Mich; Gary, Ind; Oakland, Calif; Provo, Utah; Pittsburgh, Pa; St. Louis, Mo, and hundreds of other old industrial cities in the northeastern and midwestern United States and elsewhere, sites of industries that once produced cars, tractors, clothing, and chemicals now produce rust and weeds. When not secured and maintained, these sites crumble, are invaded or vandalized, catch fire, pollute groundwater and soil, and otherwise harm neighborhoods. Public health practitioners would do well to become more involved in cleaning up these blighted places and finding appropriate land uses—including affordable housing—that will benefit the surrounding neighborhoods and the residents who call them home. ■

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References

1. US Environmental Protection Agency. Brownfield glossary of terms. 1997. Available at: http://www.epa.gov/swerosps/bf/glossary.htm. Accessed October 1, 2001.

2. Greenberg M. Improving neighborhood quality. *Housing Policy Debate.* 1999;10;601–624.

3. Greenberg M. Elements and test of a theory of neighborhood civic participation. *Hum Ecol Rev.* 2001;8(2):40–51.

4. Fullilove MT, Fullilove RM. Place

matters. In: Hofrichter R, ed. *Reclaiming the Environmental Debate.* Cambridge, Mass: Massachusetts Institute of Technology; 2000:77–91.

5. Sclar E, Northridge ME. Property, politics, and public health. *Am J Public Health.* 2001;91:1013–1015.

6. Thompson AC. Hot property. *San Francisco Bay Guardian.* July 4, 2001. Available at: http://www.sfbg.com/News/35/40/40tox.htm1#top. Accessed July 27, 2001.

7. Yahaya M. $11 million MOT cleanup agreement reached. *The Jersey Journal.* September 26, 2001. Available at: http:.//www.nj.com/news/jjournal/index/ssf?/news/jjournal.mot25.html. Accessed October 3, 2001.